

Aim:

Write code to calculate **roots** of a **quadratic equation**.

Write a class `QuadraticRoots` with `main` method. The method receives three arguments, write code to parse them into `double` type.

For example:

if the values 2, 5, 3 are passed as arguments, then the output should be **First root is : -1.0 Second root is : -1.5**

If the values 3, 2, 1 are passed then the output should be **Roots are imaginary**

Similarly, if the values 2, 4, 2 are passed then the output should be **Roots are equal and value is : -1.0**

Note: Make sure to use the `print()` and not the `println()` method.

Note: Please don't change the package name.

Source Code:

q10851/QuadraticRoots.java

```
package q10851;
class QuadraticRoots
{
    static double a,b,c,d,root1,root2;
    public static void main(String args[]){
        a=Double.valueOf(args[0]);
        b=Double.valueOf(args[1]);
        c=Double.valueOf(args[2]);
        d=b*b-4*a*c;
        if(d==0)
        {
            root1=-b/(2*a);
            System.out.println("Roots are equal and value is : "+root1);
        }
        else if(d<0)
        {
            System.out.println("Roots are imaginary");
        }
        else
        {
            root1=(-b+Math.sqrt(d))/(2*a);
            root2=(-b-Math.sqrt(d))/(2*a);
            System.out.println("First root is : "+root1+" Second root is : "+root2);
        }
    }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
First root is : -0.6047152924789525 Second root is : -1.3952847075210475

Test Case - 2
User Output
Roots are equal and value is : -1.0

Test Case - 3
User Output
Roots are imaginary